STOWELL'S MICROSCOPICAL DIAGNOSIS.

Microscopical diagnosis. By CHARLES H. STOWELL, M D., and LOUISA REED STOWELL, M.S. Detroit, *G. S. Davis*, 1883. 8+93+118+35 p., 10 pl. 8°.

THE title of this book led us to expect a work specially referring to the applications of the microscope in medical practice, and we felt that a good book of that scope would be welcome and valuable. As in the opening sentence of the preface Professor Stowell says it has been his good fortune to be so situated, during the past few years, that his entire time has been devoted to the study of histology and microscopy, with special reference to the microscope in its relation to the practice of medicine, our anticipations seemed confirmed, and the expectation added, of finding much new and original matter. An examination of the body of the book was disappointing, because it gave us acquaintance with contents so miscellaneous and varied that we were reminded of those so-called 'happy families' where discordant associates live in compulsory peace, — something quite unlike a natural and well-proportioned assemblage.

The first eighty-two pages alone deal with clinical microscopy, and we think not satisfactorily; for the treatment is hurried and incomplete, though certainly accurate, what there is. The best part is the few pages on urinary deposits, with the accompanying admirable plates by Mrs. Stowell. The portion on parasites and tumors is extremely inadequate. The three specimens of Demodex figured, must have encountered some frightful disaster before they were drawn. We regret, that, instead of all this, the author did not prepare a translation of Bizzozero's *Manuale di microscopia clinica*.

The bulk of the book is made up of botanical articles, by Mrs. Stowell, on starch, wheat, and various medicinal plants. These are pleasantly written, and the illustrations display the authoress's skill in drawing; but we miss in these, as in the other parts of the volume, any definite purpose, either of text-book writing or original research. In this connection, we are impressed by the absence of references to scientific literature.

Part iii., by Mr. Walmsley, describes the methods employed by him in the commercial manufacture of microscope slides. It is extremely elementary, and the methods most employed in scientific biology are in large part unmentioned. The same subject of methods has been far better treated by numerous previous writers.

In short, we are quite at a loss to discover the *raison d'être* of this pleasantly and clearly written, as well as beautifully illustrated work. The new and original matter which we looked for, after reading the preface, we have not found; yet the facts and figures seem all to rest upon personal observation.

To the amateur microscopist, the book may well serve as a guide to certain things not elsewhere so well described.

WEEKLY SUMMARY OF THE PROGRESS OF SCIENCE.

MATHEMATICS.

Classification of surfaces. — In a memoir contained in the Abhandl. kön. akad. wiss. zu Berlin for 1868, M. Christoffel treated of the classification of surfaces by formulating the changes which took place in a geodetic triangle on the surface when it was displaced or moved along on the surface. M. Christoffel was thus led to a classification of surfaces which divided them into four groups. The first group contained all surfaces upon which no displacement of a geodetic triangle could take place without altering the triangle; the second group contained surfaces upon which a geodetic triangle might be displaced without alteration, provided its angles moved upon certain determinate curves; the third group contained surfaces upon which the geodetic triangle might be displaced without alteration in a singly infinite number of ways; and the fourth group contained surfaces upon which the triangle could be displaced in any manner without alteration. In the present paper, M. v. Mangoldt revises this classification, and shows that the surfaces contained in the third and fourth groups are identical, and that they include all surfaces with a constant measure of curvature, and only these. Also he shows that the second group contains all surfaces which are developable upon surfaces of rotation which have not a constant measure of curvature, and only these. The author further revises a paper of Weingarten's, correcting an error which appeared there. — (*Journ. reine ang. math.*, xciv. i.) T. C. [74

PHYSICS.

Electricity.

Aurora borealis. — Professor Lemström has now given a somewhat detailed account of his apparatus and experiments in Lapland. He and others had years ago in that country observed a pecular luminosity, which he calls 'phosphorescent,' in the form of 'tiny flames' playing about the tops of small mountains.